

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)

Creation date	05th September 2019	Version	3.0
Revision date	12th April 2024		

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

Substance / mixture	Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)
UFI	mixture
Other mixture names	Q9J5-T1GE-M00U-FTHX
	Mercury(II) nitrate hydrate ready to use volumetric solution 0,05mol/l (N/10)

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

###### Mixture's intended use

Chemical production, analytical chemistry, laboratory synthesis, industrial applications.

###### Mixture uses advised against

The product should not be used in ways other than those referred in Section 1.

##### 1.3. Details of the supplier of the safety data sheet

###### Supplier

Name or trade name	Ing. Petr Švec - PENTA s.r.o.
Address	Radiová 1122/1, Praha 10, 102 00 Czech Republic
Identification number (CRN)	02096013
VAT Reg No	CZ02096013
Phone	+420 226 060 681
E-mail	info@pentachemicals.eu
Web address	www.pentachemicals.eu

###### Competent person responsible for the safety data sheet

Name	Ing. Petr Švec - PENTA s.r.o.
E-mail	info@pentachemicals.eu

##### 1.4. Emergency telephone number

European emergency number: 112 112

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification of the mixture in accordance with Regulation (EC) No 1272/2008

The mixture is classified as dangerous.

Acute Tox. 4, H302  
Acute Tox. 3, H311  
Skin Irrit. 2, H315  
Eye Dam. 1, H318  
Acute Tox. 2, H330  
STOT RE 2, H373  
Aquatic Chronic 3, H412

###### Most serious adverse effects on human health and the environment

Harmful if swallowed. Toxic in contact with skin. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

##### 2.2. Label elements

###### Hazard pictogram



###### Signal word

Danger

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**Hazardous substances**

nitric acid ... %  
Mercury(II) dinitrate, monohydrate

**Hazard statements**

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P273	Avoid release to the environment.
P280	Wear eye protection.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor.

**Supplemental information**

EUH071	Corrosive to the respiratory tract. Restricted to professional users.
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**2.3. Other hazards**

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Mixture does not contain any substance meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Chemical characterization**

Mixture of substances and additives specified below.

**Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment**

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 007-004-00-1 CAS: 7697-37-2 EC: 231-714-2 Registration number: 01-2119487297-23-0039	nitric acid ... %	<4	Ox. Liq. 2, H272 Skin Corr. 1A, H314 Acute Tox. 1, H330 EUH071 Specific concentration limit: Ox. Liq. 2, H272: C ≥ 99 % Ox. Liq. 3, H272: 70 % ≤ C < 99 %	1, 2
Index: 080-002-00-6 CAS: 7783-34-8 EC: 638-791-5	Mercury(II) dinitrate, monohydrate	<2	Acute Tox. 2, H300+H330 Acute Tox. 1, H310 STOT RE 2, H373 Aquatic Acute 1, H400 (M=1 000) Aquatic Chronic 1, H410 (M=1 000) Specific concentration limit: STOT RE 2, H373: C ≥ 0.1 %	3

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#### Notes

- Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.
- A substance for which exposure limits are set.
- The use of the substance is restricted by Annex XVII of REACH Regulation

Full text of all classifications and hazard statements is given in the section 16.

#### SECTION 4: First aid measures

##### 4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

##### If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Take care of your own safety, do not let the affected person walk! Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

##### If on skin

Remove contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers. Depending on the situation, call the medical rescue service and always ensure medical treatment.

##### If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.

##### If swallowed

INDUCE VOMITING! Vomiting should be induced in the person only if conscious, within 1 hour from ingestion. If in doubt whether vomiting should be induced, contact the Toxicological Information Centre and give information about the substances or composition of the product as provided on the original packaging or in the safety data sheet of the product. FOLLOWING INGESTION OF TOXIC OR HIGHLY TOXIC SUBSTANCES, GIVE 10-20 CRUSHED TABLETS OF ACTIVATED CARBON, MIXED IN WATER, WITHIN NO LATER THAN 5 MINUTES - irrespective of whether vomiting could be induced. Call medical rescue service.

##### 4.2. Most important symptoms and effects, both acute and delayed

##### If inhaled

Inhaling vapours can cause corrosion of the breathing system.

##### If on skin

Causes skin irritation.

##### If in eyes

Causes serious eye damage.

##### If swallowed

Corrosion of the digestion system can occur.

##### 4.3. Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

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#### SECTION 5: Firefighting measures

##### 5.1. Extinguishing media

###### Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

###### Unsuitable extinguishing media

Water - full jet.

##### 5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

##### 5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

#### SECTION 6: Accidental release measures

##### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale mist/vapours/spray. Prevent contact with skin and eyes.

##### 6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

##### 6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

##### 6.4. Reference to other sections

See the Section 7, 8 and 13.

#### SECTION 7: Handling and storage

##### 7.1. Precautions for safe handling

Prevent formation of gases and vapours in concentrations exceeding the occupational exposure limits. Do not inhale mist/vapours/spray. Prevent contact with skin and eyes. Wash hands and exposed parts of the body thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Avoid release to the environment.

##### 7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Store locked up. Keep container tightly closed.

##### 7.3. Specific end use(s)

not available

#### SECTION 8: Exposure controls/personal protection

##### 8.1. Control parameters

The mixture contains substances for which occupational exposure limits are set.

###### European Union

###### Commission Directive 2006/15/EC

Substance name (component)	Type	Value
nitric acid ... % (CAS: 7697-37-2)	OEL 15 minutes	2,6 mg/m <sup>3</sup>
	OEL 15 minutes	1 ppm

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#### 8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

##### Eye/face protection

Protective goggles or face shield (based on the nature of the work performed).

##### Skin protection

Contaminated skin should be washed thoroughly. Hand protection: Protective gloves resistant to the product (nitrile rubber).

##### Respiratory protection

Respirator. Mask with dust filter.

##### Thermal hazard

Not available.

##### Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	data not available
Odour	data not available
Melting point/freezing point	79 °C (dusičnan rtuťnatý hydrát)
Boiling point or initial boiling point and boiling range	data not available
Flammability	data not available
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	data not available
Kinematic viscosity	data not available
Solubility in water	data not available
Solubility in fats	data not available
Partition coefficient n-octanol/water (log value)	-0.51 (bezvodý dusičnan rtuťnatý )
Vapour pressure	data not available
Density and/or relative density	
Density	4.39 g/cm <sup>3</sup> at 20 °C (dusičnan rtuťnatý hydrát)
Relative vapour density	data not available
Particle characteristics	data not available

#### 9.2. Other information

Evaporation rate	data not available
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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

not available

#### 10.2. Chemical stability

The product is stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

Unknown.

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#### 10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

#### 10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

#### 10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

### SECTION 11: Toxicological information

#### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. No toxicological data is available for the mixture.

#### Acute toxicity

Harmful if swallowed. Toxic in contact with skin. Fatal if inhaled. Data for the components of the mixture are not available.

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Route of exposure	Parameter	Value	Exposure time	Species	Sex	Value determination
Oral	ATE	312.5 mg/kg				Calculation of value
Inhalation (vapor)	ATE	1.445 mg/l				Calculation of value

#### Skin corrosion/irritation

Causes skin irritation. Data for the components of the mixture are not available.

#### Serious eye damage/irritation

Causes serious eye damage. Data for the components of the mixture are not available.

#### Respiratory or skin sensitisation

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

#### Germ cell mutagenicity

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

#### Carcinogenicity

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

#### Reproductive toxicity

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

#### Toxicity for specific target organ - single exposure

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

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#### Toxicity for specific target organ - repeated exposure

May cause damage to organs through prolonged or repeated exposure. Data for the components of the mixture are not available.

#### Aspiration hazard

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

#### 11.2. Information on other hazards

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Harmful to aquatic life with long lasting effects. Data for the components of the mixture are not available.

#### 12.2. Persistence and degradability

No data are available for either the mixture or the components.

#### 12.3. Bioaccumulative potential

No data are available for either the mixture or the components.

#### 12.4. Mobility in soil

No data are available for either the mixture or the components.

#### 12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

#### 12.6. Endocrine disrupting properties

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

#### 12.7. Other adverse effects

Not available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

#### Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

### SECTION 14: Transport information

#### 14.1. UN number or ID number

UN 3287

#### 14.2. UN proper shipping name

TOXIC LIQUID, INORGANIC, N.O.S. (Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10))

#### 14.3. Transport hazard class(es)

6.1 Toxic substances

#### 14.4. Packing group

III

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#### 14.5. Environmental hazards

not relevant

#### 14.6. Special precautions for user

not available

#### 14.7. Maritime transport in bulk according to IMO instruments

not relevant

#### Additional information

Hazard identification No.	<b>60</b>
UN number	<b>3287</b>
Classification code	T4
Safety signs	6.1



Tunnel restriction code (E)

#### Air transport - ICAO/IATA

Packaging instructions passenger 666

Cargo packaging instructions 673

#### Marine transport - IMDG

EmS (emergency plan) F-A, S-A

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Product contains restricted explosives precursors: Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 5. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

#### 15.2. Chemical safety assessment

A chemical safety assessment has not been carried out (mixture).

### SECTION 16: Other information

#### A list of standard risk phrases used in the safety data sheet

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.



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H410 Very toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

H300+H330 Fatal if swallowed or if inhaled.

**Guidelines for safe handling used in the safety data sheet**

P273 Avoid release to the environment.

P280 Wear eye protection.

P302+P352 IF ON SKIN: Wash with plenty of water and soap.

P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

**A list of additional standard phrases used in the safety data sheet**

EUH071 Corrosive to the respiratory tract.

**Other important information about human health protection**

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

**Key to abbreviations and acronyms used in the safety data sheet**

ADR European agreement concerning the international carriage of dangerous goods by road

BCF Bioconcentration Factor

CAS Chemical Abstracts Service

CLP Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures

EC Identification code for each substance listed in EINECS

EINECS European Inventory of Existing Commercial Chemical Substances

EmS Emergency plan

EU European Union

EuPCS European Product Categorisation System

IATA International Air Transport Association

IBC International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals

ICAO International Civil Aviation Organization

IMDG International Maritime Dangerous Goods

IMO International Maritime Organization

INCI International Nomenclature of Cosmetic Ingredients

ISO International Organization for Standardization

IUPAC International Union of Pure and Applied Chemistry

log Kow Octanol-water partition coefficient

OEL Occupational Exposure Limits

PBT Persistent, Bioaccumulative and Toxic

ppm Parts per million

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals

RID Agreement on the transport of dangerous goods by rail

UN Four-figure identification number of the substance or article taken from the UN Model Regulations

UVCB Substances of unknown or variable composition, complex reaction products or biological materials

VOC Volatile organic compounds

vPvB Very Persistent and very Bioaccumulative

Acute Tox. Acute toxicity

Aquatic Acute Hazardous to the aquatic environment

Aquatic Chronic Hazardous to the aquatic environment (chronic)

Eye Dam. Serious eye damage

Ox. Liq. Oxidising liquid

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Skin Corr. Skin corrosion  
STOT RE Specific target organ toxicity - repeated exposure

#### Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

#### Recommended restrictions of use

not available

#### Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

#### The changes (which information has been added, deleted or modified)

The version 3.0 replaces the SDS version from 02 December 2022. Changes were made in sections 1, 2, 11, 12, 13, 15 and 16.

#### More information

Classification procedure - calculation method.

#### Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.